



TRIUMPH-1

Based on the TRIUMPH Chip, TRIUMPH-1 is a fully integrated package ready for your demanding jobs, offering precise and automatic performance beyond anything that you have experienced so far.

An elegant, rugged, light, and hermetically sealed box accommodates all GNSS and modem electronics, antennas, and up to 18 hours of rechargeable batteries and its sophisticated power management system. The close proximity of our batteries with the electronic section helps the batteries to absorb heat and function better in cold weathers. The batteries can be charged with any power supply from 10 volts to 30 volts, which includes car, ship and airplane batteries.

All GNSS, UHF, 3.5G UMTS/HSPA/GSM/CDMA2000, and Bluetooth/WiFi antennas are conveniently hidden and protected. An external antenna can also be connected to bypass the internal GNSS antenna. There are two SIM/UIM cards inside the box, one of them can be easily reached and changed via a small sealed door.

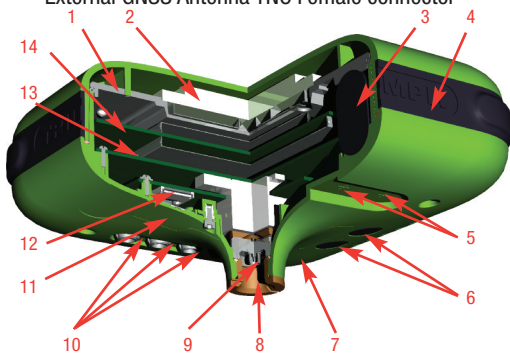
TRIUMPH-1

Standard Configuration

- GPS L1/L2/L2C/L5
- GLONASS L1/L2
- Update Rate 5Hz
- RTK Rate 5Hz
- Memory 256 MB
- RAM
- Code Differential Base/Rover
- Advanced Multipath Reduction
- MinPad Interface
- Two RS232 Serial Ports (460.8 kbps)
- USB port
- Internal GNSS antenna
- Bluetooth® Interface
- Wi-Fi (IEEE 802.11b/g)
- KFK WAAS/EGNOS (SBAS)
- Rechargeable Li-Ion Battery

Optional Feature

- Galileo E1/E5A
- Galileo E5B*
- GLONASS L3*
- QSZZ
- Beidou B1
- Beidou B2*
- Update Rate 10Hz, 20Hz, 50Hz & 100Hz
- RTK Rate 10Hz, 20Hz, 50Hz & 100Hz
- Data Recording up to 2048 MB
- Heading Determination
- GLONASS .2mm Dynamic Calibration
- In-Band Interference Rejection
- JAVAD ArcPad Extension
- 1 PPS timing strobe
- Event Marker
- Internal 3.5G UMTS/HSPA Module
- Internal GSM/GPRS/EDGE Module
- Internal CDMA2000 Module
- Internal UHF Modem
- Ethernet
- External GNSS Antenna TNC Female connector



1. Ground Plane
2. Internal GNSS Antenna
3. Rechargeable Li-Ion Battery Pack
4. Guard Bumper
5. 1PPS and Event Marker Connectors (optional)
6. On/Off and Control Buttons and LEDs
7. Bluetooth / WiFi Antenna
8. 5/8-11" Mounting Thread
9. UHF / GSM / CDMA2000 Antenna Connector
10. Communication and Power Ports
11. SIM/UM Card Door
12. User Accessible SIM/UM Card
13. GNSS Receiver and Power Board with on-board Memory
14. GNSS RF and Communication Board with on-board SIM/UM Card

Specifications are subject to change without notice

Description

Total 216 channels: all-in-view (GPS L1/L2/L5, Galileo E1/E5A/E5B, GLONASS L1/L2/L5, QZSS L1/L2/L5, Beidou B1/B2, SBAS L1/L5) integrated receiver, rugged plastic and magnesium housing complete with MinPad interface

Tracking Specification

Signals Tracked

GPS C/A, P1, P2, L2C (L+M), L5 (I+Q)
Galileo E1 (B+C), E5A (I+Q), E5B (I+Q), AltBoc
GLONASS C/A, L2C, P1, P2, L3 (I+Q)
QZSS C/A, L1C(I+Q), L2C (L+M), L5 (I+Q), SAIF
Beidou B1, B2
SBAS L1, L5

Performance Specifications

Autonomous

<2 m

Static, Fast Static Accuracy

Horizontal: 0.3 cm + 0.1 ppm * base_line_length**
Vertical: 0.35 cm + 0.4 ppm * base_line_length

Kinematic Accuracy

Horizontal: 1 cm + 1 ppm * base_line_length
Vertical: 1.5 cm + 1 ppm * base_line_length

RTK (OTF) Accuracy

Horizontal: 1 cm + 1 ppm * base_line_length
Vertical: 1.5 cm + 1 ppm * base_line_length

DGPS Accuracy

< 0.25 m Post Processing
< 0.5 m Real Time

Cold Start

<35 seconds

Warm Start

<5 seconds

Reacquisition

<1 second

Power Specification

Battery

Two internal Li-Ion batteries (7.4 V, 5.8 Ah each) with internal charger

Operation Time

Up to 18 hours

External Power Input

+10 to +30 volts

GNSS Antenna Specifications

GNSS Antenna

Integrated

Antenna Type

Microstrip (Zero Centered)

Ground Plane

Antenna on a flat ground plane

Radio Specifications

3.5G UMTS/HSPA Module

Global (850/1900/2100) /North America (850/1900/1700-2100AWS) / Europe (900/2100)

GSM/GPRS/EDGE Module

Internal GSM/GPRS/EDGE quad-band module, GPRS/EDGE Class 10

CDMA 2000 Module

Internal CDMA2000 dual band module 800/1900MHz

UHF Radio Modem

Internal 360-470MHz radio transceiver, up to 38.4kbps

Base Power Output

1 Watt

I/O

Communication Ports

2x serial (RS232) up to 460.8 kbps
High speed USB 2.0 device port (480 Mbps)
Full-duplex 10BASE-T/100BASE-TX Ethernet port
Wi-Fi (IEEE 802.11b/g)
Bluetooth V2.0+EDR Class 2 supporting SPP Slave and Master Profiles

Other I/O Signals

1 PPS synchronized
Event Marker

Status Indicator

Six LEDs, two function keys (MinPad)

Memory & Recording

Internal Memory

Up to 2048MB of onboard non-removable memory for data storage

Raw Data Recording

Up to 100 times per second (100Hz)

Data Type

Code and Carrier from GPS L1/L2, Galileo E1/E5A, GLONASS L1/L2

Real Time Data

Input/Output

JPS, RTCM SC104 v. 2.x and 3.x, CMR

Output

NMEA 0183 v. 2.x and 3.0, BINEX

Environmental Specifications

Enclosure

Molded magnesium alloy and plastic, waterproof IP67

Operating Temperature

-40° C to +60° C ***

Storage Temperature

-45° C to +85° C ***

Humidity

100% condensing

Shock

Survives a 2 m drop onto hard surface

Dimensions

W:178 mm x H:96 mm x D:178 mm

Weight

1700 g

*Board version 10 or newer

** For good observation conditions and proper length of observation session

*** The operating temperature range of Li-Ion batteries is -30 ° C to +55°

The storage temperature of Li-Ion batteries is -20 ° C to +45°



JAVAD GNSS

www.javad.com

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